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PROCESSES AND PROPERTIES INDEX

The basis for the distillation and rectification of aqueous  
furfural solutions. B. P. Vainov. *Azerbaidzhan'skie  
Nefyanoe Khim.* 1939, No. 3, 37-43; No. 4 5, 57-61. —A  
detailed discussion on const.-boiling water-furfural mixts.  
and their sepn. A. A. Roehltling

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Vol. No. 8.

2

ROMANIA

POFESCU-BAPAS, M., Dr., CIOBETEA, Gr., Dr., IONICA, C., Dr.,  
TUTORIU, C.D., Dr., VIGOR, C., Veterinarian, ETU, Eug., Veteri-  
narian, MARCEA, E., Veterinarian, JIVOLIN, P., Dr., GAMBIR, S.,  
Dr., NITOIU, L., Dr., and PREDOIU, I., Dr., of the "Pasteur"  
Veterinary and Biological Products Research Institute (Ins-  
titutul de Cercetari Veterinara si Biopreparate "Pasteur",  
GREANCA, E., Dr., PAUR, Gh., Veterinarian, and DIACONU, M.,  
Veterinarian, of the Scientific Control Laboratory for Bio-  
logical Products and Drugs for Veterinary Use (Laboratorul  
de Control Stiintific al Produselor Biologice si Medicamen-  
toase de Uz Veterinar), and VOINOV, E., Dr., of the Central  
Agricultural Research Institute (Institutul Central de  
Cercetari Agricole).

"Improvement of Animal Tuberculosis Allergical Diagnosis in  
Rumania by Single and Simultaneous Tests Using Purified  
Tuberculin (TPT)."

Bucharest, Revista de Zootehnie si Medicina Veterinara,  
Vol 13, No 1, Jan 1983, pp 50-53.

1/2

RUMANIA

Bucharest, Revista de Zootehnie si Medicina Veterinara,  
Vol 12, No 1, Jan 1963, pp 50-63.

Abstract [Author's English summary modified]: Two types of purified tuberculin (PPD) were prepared; that for mammals was standardized to a content of 100,000 T.U./ml, and that for birds to 25,000 T.U./ml. The results of large-scale tests on epizootically different animals permitted the practical application of the single tuberculin test with PPD to cattle, pigs and birds. The use of PPD allowed the introduction of the simultaneous testing of cattle for tuberculosis diagnosis, bringing about a clarification of the tuberculin reactions, a saving of time and the fact that only the animals suffering from tuberculosis, among those reacting to tuberculin, have to be sacrificed. Includes 1 Russian, 7 Western and 11 Rumanian references.

2/2

VOINOV, F., mayor

Let's promote and develop volunteer participation in the work  
of the Communist Youth League. Komm.Vooruzh.Sil 2 no.17:77-82  
S '62. (MIRA 15:8)

(Communist Youth League)  
(Russia--Armed forces--Political activity)

VOINOV, F., mayor

Let's promote and develop volunteer participation in the work  
of the Communist Youth League. Komm.Voeruzh.Sil 2 no.17:77-82  
S '62. (MIRA 15:8)

(Communist Youth League)  
(Russia--Armed forces--Political activity)

USSR / Cultivated Plants. Fruit Trees. Small Fruit  
Plants. Nut Trees. Tea.

M

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 25060

Author : Voinov, G.

Inst : Not given

Title : Large-Fruit Oleaster - A New Fruit-Bearing  
Tree for the Steppe of Crimea

Orig Pub : Vinogradarstvo i sadovodstvo Kryma, 1958,  
No 8, 22-23

Abstract : No abstract given

Card 1/1

VOINOV, G.A.

Effect of promedol on ~~oxidation-reduction~~ processes in the  
nervous tissue. Report No.3: Effect of promedol on the dehydro-  
genase activity of the brain and on cytochrome oxidase. Trudy  
Oren. otd. Vses. fiziol. ob-va no.2:49-54'60. (MIKA 16:8)  
(PROMEDOL) (OXIDATION, PHYSIOLOGICAL)  
(BRAIN)



VOINOV, G.V.; KULITSKIY, K.M.

Trees and shrubs in Feodosiya. Biul. Glav. bot. sada. no.49:  
22-29 '63. (MIRA 16:8)

1. Feodosiyskoye obshchestvo okhrany prirody.  
(Feodosiya—Trees) (Feodosiya—Shrubs)

VOINOV, G.V.

Parks and gardens of Kerch. Biul. Glav. bot. sada no.55:  
64-68 '64. (MIRA 18:11)

1. Obshchestvo okhrany prirody, Simferopol'.

Country : USSR  
Category : Cultivated Plants. Potatoes. Vegetables. Melons. M  
Abs Jour : RZhBiol., No 6, 1959, No 24913  
Author : Voinov, G. V.  
Inst : -  
Title : Laser trilobum (L.) Borkh. as a Valuable Spice  
Plant.  
Orig Pub : Botan. zh., 1958, 43, No. 9, 1340

Abstract : Laser Trilobum is widespread in Crimea. Its seeds have been used long ago by the local population as a spicy ingredient under the name of "Chaman". At the present time it is not being used. It is widespread in Crimea, Bessarabia, the Baltic region and in the Kama forests. The author recommends the restoration of the Laser seeds' use.

Card : 1/1

VOINOV, G.V.

Kharaks Sanatorium park forest. Biul.Glav.bot.sada no.23:26-33 '55.

(MIRA 9:7)

1.Lesopark sanatoriya Kharaks.

(Yalta District--Forests and forestry)

VOINOV, G.V.

Cork oak in Crimea. Biul.Glav.bot.sada no.14:84-86 '52. (MLBA 6:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gibrizatsii i akklimatizatsii zhivotnykh imeni akademika M.V. Ivanova v Askanii-Nova.  
(Crimea--Cork tree) (Cork tree--Crimea)

244T25

USSR/Medicine - Dysentery

Mar 53

"Microbiological Characteristics of Dysentery Cultures," I. I. Volnov, Ye. Ya. Zeybel', Sverdlovsk Inst of Epidemiol and Microbiol and the [Sverdlovsk] Region Sanitation-Bacteriol Lab

"Zhur Mikrobiol, Epidemiol, i Immunobiol" No 3, pp 20-21

The principal factor in the etiology of dysentery in 1951 was formed by bacilli of the Flexner W-type. 32% of the isolated strains were resistant to bacteriophage. Administration of even large quantities of sulfanilamide drugs did not result in any

244T25

significant lowering of the number of dysentery bacilli in the excrements.

VOINOV, I. I.

244T25

PA 244T38

USSR/Medicine - Infectious diseases

Mar 53

"The Problem of the Heidelberg Infection," I. I. Volnov, Epidemiol Div, Sverdlovsk Oblast Inst of Microbiol and Epidemiol

"Zhur Mikrobiol, Epidemiol, i Immunobiol" No 3, pp 53-57

Bacteria isolated from young children and adults suffering from diarrhea were found to belong to the paratyphoid B Group and to the Heidelberg type. They proved to be pathogenic to white mice. The nature of the infection produced in white mice was investigated. On the basis of the data obtained

244T38

in this investigation, the conclusion was made that Heidelberg bacteria in regard to their pathogenicity for white mice occupy a place which is intermediate between Schottmueller's paratyphoid bacilli and Breslau bacilli.

244T38

VOINOV, I. I.

PA 244749

USSR/Medicine - Typhus

Mar 53

"The Contemporary State of the Problem of Serum Diagnosis of Typhus," I. I. Voinov, Sverdlovsk Inst of Epidemiol and Microbiol

"Zhur Mikrobiol, Epidemiol, i Immunobiol No 3, p 79

Showed by comparative diagnosis of typhus with the aid of the Weil-Felix reaction and the reaction of rickettsiae agglutination that the Weil-Felix reaction is ill-suited for this diagnosis: it was negative in 4% of the patients, particularly those who had recurrent typhus. On the same group of patients,

244749

Provazek's agglutination reaction yielded positive results in 96% of the cases at sufficiently high titers (1:100 - 1:800). A negative reaction resulted only in 4% of the cases, when blood samples were taken on the 8th-10th day of the disease.

244749



VOINOV, I.I.

Certain problems of epidemiology of epidemic hepatitis. Zhur.mikro-  
biol.epid.i immun. no.2:70 F '54.  
(MLRA 7:2)

1. Iz Sverdlovskogo instituta epidemiologii, mikrobiologii i gi-  
gieny.  
(Hepatitis, Infections)

VOYNOV, I.I.

Degree of resistance of Heidelberg's paratyphoid bacilli to some factors of the external environment under laboratory conditions. Zhur. mikrobiol. epid. i imm. no.6:67 Je '54. (MIRA 7:7)

1. Iz Sverdlovskogo instituta epidemiologii, mikrobiologii i gigiyeny.  
(SALMONELLA PARATYPHI)

VOINOV, I.I.

Phenomenon of para-agglutination of *Escherichia coli* in diagnosing chronic dysentery. Author's abstract. Zhur. Mikrobiol. epid. i immun. no.8:59 Ag '55.  
(MLRA 8:11)

1. Iz Sverdlovskogo instituta epidemiologii, mikrobiologii i gigiyeny (dir. G.F.Bogdanov)

(DYSENTERY, BACILLARY, diagnosis,  
serol, para-agglut. phenomenon)

(AGGLUTINATION,  
para-agglut. in diag. of bacillary dysentery)

DOSSER, Ye.M.; RAPOPORT, R.I.; YERMAKOVA, M.N.; VOINOV, I.I.;  
PLOTNIKOV, N.P.

Results of transporting the renal cells of monkeys. Trudy  
Mosk. nauch.-issl. inst. virus. prep. 2:232-235 '61.  
(MIRA 17:1)

VOINOV, I.I.

Duration of the preservation of parasegglutinant properties by  
parastrains of *Escherichia coli* under laboratory conditions.  
Zhur. mikrobiol., epid. i immunit. 40 no.9:136 S '63.

(MIRA 17:5.

VOINOV, I.I.

Obtaining a transplantable line of cell cultures from kidney tissue of human embryo and study of its sensitivity to standard strains of enteroviruses. Vop. virus. 10 no.1:100-102 Ja-F '65.  
(MIRA 18:5)

1. Sverdlovskiy nauchno-issledovatel'skiy institut virusnykh infektsiy.

VOINOV, I.I.

Obtaining a culture of transplantable cells of embryonal human lung tissue. Vop. virus 8 no.5:622-624 S-0'63 (MIRA 17:1)

1. Institut virusnykh infektsiy, Sverdlovsk.

VOINOV, I.I.

Dynamics of enteric microflora in dysentery patients during the acute phase and convalescence. Zhur.mikrobiol.eoid. i immun.,supplement for 1956:17-18 '57 (MIRA 11:3)

1. Iz Sverdlovskogo instituta epidemiologii, mikrobiologii i gigiyeny. (INTESTINES--BACTERIOLOGY) (DYSENTERY)



VOINOV, I.I.

VOINOV, I.I.; KISELEVA, L.F.; ABRAMOVA, F.A.

Etiology of pneumonia in small children according to materials from  
pathoanatomical autopsies. *Pediatrics* no.9:87 S '57. (MIRA 10:12)

1. Iz epidemiologicheskogo otdela Sverdlovskogo instituta epidemiolo-  
gii, mikrobiologii i gigiyeny Ministerstva zdravookhraneniya RSFSR.  
(PNEUMONIA) (AUTOPSY)

VOINOV, I.N.; FILATOV, V.G.

Formations observed in the blood similar to Spirochaetae bovis  
Gaffris. Lab. delo 7 no.6:45-46 Je '61. (MIRA 14:7)

1. Parazitologicheskoy otel Chelyabinskoy oblastnoy sanitarno-  
epidemiologicheskoy stantsii.  
(MICRO-ORGANISMS)

VOINOV, I.N.

Data on a study of herpetic diseases of the eye. Report no.1:  
Virological studies on the etiology of different forms of  
herpetic keratitis. Vop. virus. 8 no.1:76-79 Ja-F'63.  
(MIRA 16:6)

1. Chelyabinskiy meditsinskiy institut.  
(CORNEA--DISEASES) (HERPES ZOSTER--MICROBIOLOGY)

KATSNEL'SON, A.B., prof.; VOINOV, I.N.; KAPLINA, K.P.

Studies on the etiology and pathogenesis of herpetic diseases of  
the eye. Vest.oft. no.3:61-67 My-Je '62. (MIRA 15:8)

1. Kafedra glaznykh bolezney (zav. - prof. A.B. Katsnel'son) i  
kafedra mikrobiologii (zav. - doktor med.nauk L.Ya. Ebert)  
Chelyabinskogo meditsinskogo instituta.  
(EYE--DISEASES AND DEFECTS) (HERPES)

[illegible]

1ST AND 2ND HOLES										PROCESS AND PROPERTY INDEX										3RD AND 4TH HOLES									
<div style="position: absolute; top: 10%; left: 10%; font-size: 2em; font-weight: bold;">BC</div> <div style="position: absolute; top: 10%; right: 10%; text-align: right;">9-3</div> <div style="position: absolute; top: 30%; left: 35%; width: 60%; text-align: center;"> <p>2) <i>o</i>-C<sub>6</sub>H<sub>4</sub>(O-SiCl<sub>2</sub>)<sub>2</sub> (polysiloxane). — See R., 1941, 11, 6.</p> <p>Condensation of SiH<sub>4</sub> with chlorosilanes. — M. Volgov and R. N. Dolgov (<i>J. Gen. Chem. Russ.</i>, 1940, 10, 560-562).</p> <p>— <i>o</i>-C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub> and SiCl<sub>4</sub> in light petroleum-Et<sub>2</sub>O yield the substance, <i>o</i>-C<sub>6</sub>H<sub>4</sub>(O-SiCl<sub>2</sub>)<sub>2</sub>, in a polymerized form, probably of the type [<i>o</i>-C<sub>6</sub>H<sub>4</sub>(O-SiCl<sub>2</sub>)<sub>2</sub>]<sub>n</sub>. This with EtOH gives <i>o</i>-C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub>·SiHCl<sub>3</sub> and HCl. — and <i>o</i>-C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub> similarly afford the substances; <i>o</i>-, <i>m</i>-, <i>p</i>-C<sub>6</sub>H<sub>4</sub>(O-SiCl<sub>2</sub>)<sub>2</sub>, <i>h</i>-, <i>dtf</i>, which with MeOH yield the respective esters, <i>o</i>-, <i>m</i>- and <i>p</i>-C<sub>6</sub>H<sub>4</sub>(O-Si(OCH<sub>3</sub>)<sub>2</sub>)<sub>2</sub>.</p> <p style="text-align: right;">R. T.</p> </div>										<div style="writing-mode: vertical-rl; transform: rotate(180deg); position: absolute; right: 10%; top: 50%;">COMMON VARIABLE INDEX</div>																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																													
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LIVIIY, G.V. [Livyi, H.V.], kand. tekhn. nauk; PONOMAREV, S.G. [Ponomar'ov, S.H.], kand. tekhn. nauk; VOINOV, I.P.; METS, M.M.; BRAGINSKIY, M.A. [Brahins'kiy, M.A.]; FL'YENSKIY, V.P. [Floryns'kiy, V.P.]

Device for determining the wear resistance of materials for shoe soles. Leh. prom. no.4:48-51 O-D '64 (MIRA 18:1)

PROKOP'YEVA, M.S.; PILIUSHENOK, S.V.; NIKOLAYEVA, R.I.; CHECHENKOVA, M.V.;  
MIKHAYLOVA, A.A.; STRELKOVA, A.V.; LOPUKHA, N.Ye; KOZLOV, F.N., red.;  
VOINOV, K.F., red.; BABESHKINA, N., tekhn. red.

[Economy of Pskov Province; statistical collection] Narodnoe kho-  
ziaistvo Pskovskoi oblasti; statisticheskii sbornik. Leningrad,  
Gosstatizdat, 1960. 175 p. (MIRA 14:6)

1. Pskov (Province) Statisticheskoye upravleniye. 2. Rabot-  
niki Statisticheskogo upravleniya Pskovskoy oblasti (for all  
except Kozlov, Voinov, Babashkina). 3. Nachal'nik Statisticheskogo  
upravleniya Pskovskoy oblasti (for Kozlov). 4. Zamestitel' nachal'-  
nika Statisticheskogo upravleniya Pskovskoy oblasti (for Voinov)  
(Pskov Province--Statistics)



USPENSKIY, G.N.; VOINOV, L.G.; SUTUGIN, P.K.

Operation of No. 9 bit in the drilling of deep wells at high  
working pressure. Trudy KNII NP no.17:3-11 '62. (MIRA 17:8)

VOINOV, L.G. ... inch.

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... institution to ...

VOINOV, M., mayor, zamestitel' nachal'nika politotdela

"We are a close-knit family." Komm.Vooruzh.Sil 1 no.4:66-69  
F '61. (MIRA 14:8)  
(Russia--Army--Political activity) (Nationalities)

VOINOV, M. I., Cand Agr Sci — (diss) "Comparative evaluation of inter-  
variety and intra-variety free repollination of "Vyatka" rye as methods  
for obtaining improved ~~seeds~~<sup>stock</sup> seeds." Mos, 1958. 16 pp (Mos Order of  
Lenin Agr Acad im K. A. Timiryazev), 110 copies (KL, 18-58, 100)

-79-

USSR/Cultivated Plants - Grains.

M-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29695

Author : Voinov, M.I.

Inst :

Title : Methods of Improving the Variety Characteristics of  
Vyatka Winter Rye.

Orig Pub : Seleksiya i semenovodstvo, 1957, No 1, 26-28.

Abstract : At the Aleksandrovskaia Selection Station (in Vladimirskaia Oblast') a study was made of the effectiveness of pollinating Vyatka variety winter wheat with the Kazanskaya, Lisitsina, Petkusskaya rye varieties, with a mixture of these varieties, as well as with a mixture of Vyatka reproduced strains cultivated under different conditions. The highest yield boost was obtained from the cross-pollination of Vyatka reproduced strains of different harvesting years (by 29%) and different places of origin (by 19%).

Card 1/2

USSR/Cultivated Plants. Grains.

M-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29695

It is noted that there is no need to change over to the production of improved Vyatka elite rye with the use of intervarietal hybridization.

Card 2/2

- 30 -

RUSANOV, A.I., kand.tekhn.nauk; GORDON, N.S.; VOINOV, M.I.

The SPM-200 straw stacker and FN-1,2 forager. *Bul'tekhn.-ekon.*  
inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform 17 no.11:72-75  
N '64. (MIRA 18:3)

VOINOV, M.S.; KIRILLOV, G.N.; KOZLOVA, M.M.; CHZHAO, A.Ye. [Chao, A.N.];  
ABRIKOSOVA, F.S., red.; AMBARTSUMYAN, Z.N., red.; VASILYEVSKAYA,  
V.A., red.; DROZDOVA, N.N., red.; ZHAK, D.K., red.; KESSENIKH, V.N.,  
red.; KOPLOVA, G.I., red.; LEVASHOVA, Z.P., red.; SMIRNOVA, B.A.,  
red.; TIMOSHENKO, G.G., red.; KHRENKOVA, A.A., red.; KHELEMSKAYA,  
L.M., tekhn. red.

[Catalog for district libraries] Katalog raionnoi biblioteki.  
Sec.63. [Agriculture] Sel'skoe khoziaistvo. Izd.3., dop. 1  
perer. Moskva. 1957. 163 p. (MIRA 11:8)

1. Moscow. Publichnaya biblioteka.  
(Bibliography--Agriculture)



VADIKOVSKAYA, L.M.; VOINOV, M.S.; KIRILLOV, G.N.; KOZLOVA, M.M.;  
CHZHAO, A.Ye.; SADOV'YEV, A.P., red.; VASIL'YEVA, L.P.,  
tekhn.red.

[Animal husbandry; a recommended list of literature]  
Zhivotnovodstvo; rekomendatel'nyi ukazatel' literatury.  
Moskva, 1959. 241 p. (MIRA 12:9)

1. Moscow. Publichnaya biblioteka.  
(Bibliography--Stock and stockbreeding)

VOINOV, M.S., kandidat pedagogicheskikh nauk.

Reference book for scientific workers ("Bibliography of agricultural literature, 1783-1954" by N.M.Mikheev. Reviewed by M.S.Voinov). Nauka i pered.op. v sel'khoz. 7 no.8:78-79 '57. (MLHA 10-9)

1. Gosudarstvennaya biblioteka SSSR imeni V.I.Lenina  
(Bibliography--Agriculture) (Mikheev, N.M.)

VOINOV, N

USSR:

b. Effect of oils on the wear of internal combustion engines operated at low temperature. N. Voinov and Yu. Zaslavskii. *Nososti-Nefiyanoi Tekhn.* 1951. No. 2, 3-7. Wear in automotive engines reaches a max. at a cooling-water temp.  $< 50^{\circ}$ . Inhibitors designated TSI-ATIM-331 and AzNII-4 effectively reduce wear regardless of the cooling-water temp. H. G. Voelker

*Law*

VOINOV, N.

For the life of a comrade. Sov. por. 17 no.14:18 J1 '57. (MLRA 10:9)  
(Vorozheikin, Viktor)

VOINOV, N.

23562. ISPYTANIYa OTECHESTVENNYKh MNOGOFUNKTsIONAL NYKh PRISADCK K  
MASLAM NO MALOLITRAZHOM DVIGATELE. AVTOMOBIL', 1949, No. 7, c. 10-11.

SO: LETOPIS' NO. 31, 1949

VOINOV, N.A.; SHCHUPAK, P.L.

Studying the dynamic qualities of tractors with supercharged diesel engines. Trakt. i sel'khoz mash. no.9:6-9 S '65.

(MIRA 18:10)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktorny institut (for Voinov). 2. Odesskaya nauchno-issledovatel'skaya ispytatel'naya stantsiya Gosudarstvennogo soyuznogo nauchno-issledovatel'skogo traktornogo instituta (for Shchupak).

ROZENBLYUM, S., arkhitektor; VOINOV, N., inzh.

Standard plans for two-story apartment houses in the 1-24 series.  
Zhil. stroi. no.12:23-25 '61. (MIRA 15:2)  
(Uzbekistan--Apartment houses)

VOINOV, N. F.

Kreyin, S. E., Zaslavskiy, Yu. S. and Voinov, N. F.

Machine Parts

Smazochnoe maslo i dvigatel'.

Moscow, Gosudarstvennoe Nauchno-Tekhnicheskoe Izdatel'stvo Neftyanoy  
i Gorno-Toplivnoy Literatury, 1952.

Pp. 199, illus., diags., 23 x 17.

IKIII-1



37937

S/089/62/013/001/002/012  
B102/B104

21.1000

AUTHORS: Kochenov, I. S., Voinov, N. L., Yershova, N. N.

TITLE: Calculation and analysis of the thermodynamic cycle in an atomic power plant

PERIODICAL: Atomnaya energiya, v. 13, no. 1, 1962, 38-46

TEXT: As existing methods of calculating the optimum reactor parameters for atomic power plants are still defective a new method has been developed as here described. The parameters and the absolute internal efficiency of the thermodynamic cycle of an atomic power plant which includes two coolant loops, a gas-cooled  $\text{CO}_2$  reactor and two vapor-pressure stages in the second circuit, are calculated. The efficiency is determined as a function of the coolant temperature at the vapor generator inlet and outlet ( $T_1, T_7$ ), the temperature drops at the individual stages ( $\Delta_j$ ), the design of the regenerative preheater and the feed water temperature, the pressure in the condenser turbine, the humidity content of the vapor and the relative internal efficiency of the turbine unit. Relations for the

Card 1/4

S/089/62/013/001/002/012  
B102/B104

Calculation and analysis of the...

quantity  $(G\eta_1/D)(I_{in}-I_{out})$  are arrived at each of the six sections (see Fig. 1), G and D being flow rates of the coolant and the working substance, whilst  $\eta_1$  takes account of the heat losses and I are the coolant enthalpies. For  $I(T)$  it is assumed that  $I = k_0 + k_1T + k_2T^2$ . The equations of the i-s diagram and those describing the pressure drops are formulated. The required efficiency is calculated from the equation  $\eta_1 = H_1(1 - \alpha_j y_j)/q_1$ , where  $H_1$  is the temperature drop,  $q_1$  the heat consumption per kg of vapor,  $\alpha_j$  are the vapor losses and  $y_j$  is the corresponding underproduction of energy. In addition, formulas are derived for the thermodynamic properties of water and water vapor which are well suited for numerical computations with electron computers. The dependences of  $\eta_1$  on various parameters have been calculated by this means and the results are represented graphically; e.g.,  $\eta_1(\Delta_j)$ ,  $\eta_1$  as a function of the condenser pressure, feed water temperature and gas temperatures  $T_1$  and  $T_7$ . The method and programming have been developed at

Card 2/4 3

Calculation and analysis of the...

S/089/62/013/001/002/012  
B102/B104

the Institut atomnoy energii im. I. V. Kurchatova (Institute of Atomic Energy imeni I. V. Kurchatov). There are 9 figures.

SUBMITTED: December 6, 1961

Fig. 1: schematic drawing of the vapor generator

Legend:  $\Psi_{HB}$  -high-pressure circulation pump;  $\Psi_{HH}$  -low-pressure circulation pump

Fig. 2: temperature distribution in the vapor generator; T-coolant temperature, t - water or water vapor temperature ( $^{\circ}\text{C}$ )

Card 3/8

X

KOCHENOV, I.S.; VOINOV, N.I.; YERSHOVA, N.N.

Calculation and analysis of the parameters of the thermodynamic  
cycle of an atomic power plant. Atom. energ. 13 no.1:38-46  
Jl '62. (MIRA 15:7)  
(Atomic power plants)

SOV/137-57-1-1099

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 142 (USSR)

AUTHOR: Voinov, N. P.

TITLE: Improving the Service Life of Engines by Means of Roll Burnishing  
(Povysheniye dolgovechnosti dvigateley pri pomoshchi obkatki)

PERIODICAL: V sb.: Povysheniye dolgovechnosti mashin. Moscow, Mashgiz,  
1956, pp 252-262

ABSTRACT: Rational roll burnishing (RB) [lapping] is an inexpensive and easily accomplished means of increasing the durability of mechanisms. Studies of the process of RB, undertaken to select proper operating conditions and appropriate quality of lubricants, must be performed with the aid of the wear lines (WL) which are obtained as a result of plotting of a diagram of the wear as a function of the speed of RB and the quantity of metal removed from the friction surface (FS). In order to plot the WL's, oil samples (100-150 g) are taken from an operating engine at certain intervals and, at the same time, the amount of oil contained in the crankcase is measured. The difference in the quantity of Fe contained in the oil at different periods of time makes it possible to determine the degree of wear

Card 1/2

SOV/137-57-1-1099

### Improving the Service Life of Engines by Means of Roll Burnishing

during those periods. The operating conditions are chosen on the basis of a study of the nature of the WL's plotted on the basis of tests of several engines operating at different speeds. The process of RB is most effective if the number of revolutions is continuously increased. An addition of 5-6% of "sul'fofrezol" [sulfurous cutting lubricant] to the oil accelerates the wear during RB, thereby facilitating the process of lapping and assisting in the attainment of a surface with maximum wear resistance. RB of engines should be performed in such a manner that the longest stage of the process is carried out at the initial revolutions. Experiments demonstrated that RB performed in accordance with the method described reduces the wear of the cylinder-piston group of the M-11 engine by 30-35% and lowers the oil consumption by 30%.

R. B.

Card 2/2

VOINOV, N. P.; KONEV, B. P.; KITSKIY, B. P.

Toplivo i Smazka Otechestvennykh Legkovykh Avtomobilei (Fuel and Oil for  
Fatherland Light Automobiles), State Scientific-Technical Publ. House of  
Petroleum and Ground-fuel Lit., Moscow-Leningrad, 1951.

VOINOV, N.P., kandidat tekhnicheskikh nauk, dotsent.

Effective running-in improves engine efficiency. Vest. (MLRA 9:10)  
mash. 36 no.9:32-33 S '56.

(Gas and oil engines)



VOINOV, N. P., S. I. KORZENKIN, B. F. KONEV and others

Podbor smazochnykh masel dlia obkatki dvigatelei i mekhanizmov. Moskva,  
Gostoptekhnizdat, (1950?) 84 p.

Selection of lubricants for running in engines and mechanisms.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library  
of Congress, 1953.

VOINOV, N.P., kandidat tekhnicheskikh nauk, dotsent

Selection of optimal conditions for running-in of engines. Vest.  
mash. 35 no.2:22-26 F '55. (MIRA 8:6)  
(Gas and oil engines) (Automobiles--Engines)

*VOINOV, N. P.*

USSR/ Engineering - Engines testing

Card 1/1 Pub. 128 - 5/23

Authors : Voinov, N. P.

Title : The selection of optimum conditions for engine break-in

Periodical : Vest. mash. 2, 22 - 26, Feb 1955

Abstract : A description is presented of a factory test run and break-in of automobile, tractor and aircraft engines, and technical data is given on grades and types of oil, friction factors, break-in time, and types of engines used in the above mentioned procedures. Tables; graphs.

Institution: .....

Submitted: .....

KREYN, S.E.; ZASLAVSKIY, Yu.S.; VOINOV, N.P.; L'VOVA, L.A., ved.  
red.; POLOSINA, A.S., tekhn. red.

[Lubricant and the engine] Smazochnoe maslo i dvigatel'. Mo-  
skva, Gostoptekhhizdat, 1952. 198 p. (MIRA 16:7)  
(Internal combustion engines—Lubrication)

VOINOV, N.V.

VOINOV, N.V., inzhener.; GERARDI, G.V.

Roofs built of large panels. Biul. stroi. tekhn. 14 no.3:46 Mr '57.  
(MIRA 10:5)

1. Chelyabinskiy filial Gosudarstvennogo instituta po proyektirovaniyu  
metallurgicheskikh zavodov.  
(Roofs, Concrete)

VOINOVA, N.V.

Methods for determining the production capacity of brewing  
industry enterprises. Trudy KTIPP no.18:87-89 '57.  
(MIRA 13:1)

(Brewing industry)

15

*ca*

The relation of seedlings of birch (*B. verrucosa*), pine, larch and maple (*Acer argentea*) to calcium carbonate. P. A. Volinov. Trans. Omsk Inst. Agr. (U. S. S. R.) 1, 217-36 (1935).—Vegetation expts. with 0.5, 2.0 and 8.0%  $\text{CaCO}_3$  in a chernozem soil have shown that *Acer argentea* was improved with 0.5 and 2.0% lime. All conifers decreased in growth from the addn. of  $\text{CaCO}_3$ . The highest root development was found in the spruce. J. S. Joffe

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

15

ca

The influence of mineral fertilizers on the development of seedlings of pine, larch, spruce, birch (*B. verrucosa*), maple (*A. negundo*), aspen, poplar and Siberian scots. P. A. Voinov. - *Trav. Omsk Inst. Agr.* (U. S. S. R.) 1, 337-39 (1935). - Conifers reduced their growth when  $\text{Ca}(\text{NO}_3)_2$  was used alone or in the fertilizer mixt.  $\text{K}_2\text{HPO}_4$  alone was better than in combination with  $\text{Ca}(\text{NO}_3)_2$ . The reverse was true for the deciduous species. The soil used was a chernozem and the expts. were conducted in pots. It is suggested that the org. matter of the soil has a definite effect on the behavior of the resp. species to fertilizers. A no. of photographs illustrating the growth are appended.

J. S. Joffe



1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
PROCESSES AND PROPERTIES INDEX																																																			
15																																																			
<p><i>Ca</i></p> <p>The influence of sodium chloride, sodium carbonate and sodium sulfate on seedlings of trees. J. A. Volnov. Trans. Omsk Inst. Agr. (U. S. S. R.) 1, 301-74(1935). The chlorides proved to be most toxic to seedlings of pine, larch, poplar, aspen, birch and maple. The sulfates were less and the carbonates still less toxic. The poplar seedlings were more resistant to chlorides than any other species tested. J. S. Joffe</p>																																																			
<p>ASR-3LA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>REGIONAL SUMMARY</p>																																																			

VOINOV, P.A.

AFANAS'YEVA, A.L., kand.biol.nauk; BAYERTUYEV, A.A., kand.sel'skokhozyaystvennykh nauk; BAL'CHUGOV, A.V., kand.sel'skokhozyaystvennykh nauk; BELOZHEROVA, H.A., agronom; BELOZOROV, A.T., kand.sel'skokhozyaystvennykh nauk; MAKSIMENKO, V.P., agronom; BERNIKOV, V.V., doktor sel'skokhozyaystvennykh nauk; BOGOMYAGKOV, S.T., kand.sel'skokhozyaystvennykh nauk; VOLYNETS, O.S., agronom; BCDRCV, M.S., kand.sel'skokhozyaystvennykh nauk; BOGOSLAVSKIY, V.P., kand.tekhn.nauk; KHRUPPA, I.F., kand.tekhn.nauk; VERNER, A.R., doktor biol.nauk; VOZBUTSKAYA, A.Ye., kand.sel'skokhozyaystvennykh nauk; VOINOV, P.A., kand.sel'skokhozyaystvennykh nauk; VYSOKOS, G.P., kand.biol.nauk; GALDIN, M.V., inzhener-mekhanik; GERASIMOV, S.A., kand.tekhn.nauk; GORSHENIN, K.P., doktor sel'skokhozyaystvennykh nauk; YELENEV, A.V., inzhener-mekhanik; GERASKEVICH, S.V., mekhanik [deceased]; ZHARIKOVA, L.D., kand.sel'skokhozyaystvennykh nauk; ZHEGALOV, I.S., kand.tekhn.nauk; ZIMINA, Ye.A., agronom; BARANOV, V.V., kand.tekhn.nauk; PAVLOV, V.D.; IVANOV, V.K., kand.sel'skokhozyaystvennykh nauk; KAPLAN, S.M., kand.sel'skokhozyaystvennykh nauk; KATIN-YARTSEV, L.V., kand.sel'skokhozyaystvennykh nauk; KOPYRIN, V.I., doktor sel'skokhozyaystvennykh nauk; KOCHERGIN, A.Ye., kand.sel'skokhozyaystvennykh nauk; KOZHEVNIKOV, A.R., kand.sel'skokhozyaystvennykh nauk; KUZNETSOV, I.N., kand.sel'skokhozyaystvennykh nauk; LAMBIN, A.Z., doktor biol.nauk; LEONT'YEV, S.I., kand.sel'skokhozyaystvennykh nauk; MAYBORODA, M.M., kand.sel'skokhozyaystvennykh nauk; MAKAROVA, G.I., kand.sel'skokhozyaystvennykh nauk; MEL'NIKOV, G.A., inzhener; ZHDANOV, B.A., kand.sel'skokhozyaystvennykh nauk; MIKHAYLENKO, M.A., kand.sel'skokhozyaystvennykh nauk; MAGILEVTSEVA, H.A., kand.sel'skokhozyaystvennykh nauk;

(Continued on next card)

AFANAS'YKVA, A.L.... (continued) Card 2.

MIKIFOROV, P.Ye., kand.sel'skokhozyaystvennykh nauk; MENASHEV, M.I.,  
 lesovod; PERVUSHINA, A.M., agronom; PLOTNIKOV, M.A., kand.biol.nauk;  
 L.G.; kand.sel'skokhozyaystvennykh nauk; PAVLOV, V.D., kand.tekhn.  
 nauk; PRUTSKOVA, M.G., kand.sel'skokhozyaystvennykh nauk; GURCHENKO,  
 V.S., agronom; POPOVA, G.I., kand. sel'skokhozyaystvennykh nauk;  
 PORTYANKO, A.F., agronom; RUCHKIN, V.N., prof.; RUSHKOVSKIY, T.V.,  
 agronom; SAVITSKIY, M.S., kand.sel'skokhozyaystvennykh nauk; BOLDIN,  
 D.T., agronom; NESTEROVA, A.V., agronom; SERAFIMOVICH, L.B., kand.  
 tekhn.nauk; SMIRNOV, I.N., kand.sel'skokhozyaystvennykh nauk;  
 SEREBRYANSKAYA, P.I., kand.tekhn.nauk; TOKHTUYEV, A.V., kand. sel'sko-  
 khozyaystvennykh nauk; FAL'KO, O.S., iznh.; FEDYUSHIN, A.V., doktor  
 biol.nauk; SHEVLYAGIN, A.I., kand.sel'skokhozyaystvennykh nauk;  
 YUFEROV, V.A., kand.sel'skokhozyaystvennykh nauk; YAKHTENFEL'D, P.A.,  
 kand.sel'skokhozyaystvennykh nauk; SEMENOVSKIY, A.A., red.; GOR'KOVA,  
 Z.D., tekhn.red.

[Handbook for Siberian agriculturists] Spravochnaya kniga agronoma  
 Sibiri. Moskva, Gos. izd-vo sel'khoz. lit-ry. Vol.1. 1957. 964 p.  
 (Siberia--Agriculture) (MIRA 11:2)

VOINOV, P.M.

Planning a field observation in mountainous regions. Geod.  
1 kart. no.9:48-50 S'62. (MIRA 15:10)  
(Topographic surveying) (Aerial photogrammetry)

VOINOV, P. M.

Lyaskelya

Technology

On - New Method for Manufacturing Heat Insulating Tiles for Standard Houses.

Soviet Source: N: Lenin Banner, Petrozavodsk, 22 Mar. 47

Abstracted in USAF "Treasure Island" Report No. 32926, on file in Library of Congress, Air Information Division.

VOINOV, S., kand.veterinarnykh nauk; KARPOVICH, M., veterinarnyy  
vrach SEVOST'YANOV, B.

Rendering the blood of cattle infected by foot-and-mouth  
disease harmless. Mias. ind. SSSR 31 no.4:52-53 '60.  
(MIRA 14:7)

1. Gosudarstvennyy nauchno-kontrol'nyy institut vetpreparatov  
(for Voinov, Karpovich). 2. Vsesoyuznyy nauchno-issledovatel'  
skiy institut myasnoy promyshlennosti (for Sevost'yanov).  
(Foot-and-mouth disease)

VOINOV, S. G.

"New Method of Melting Steel in the Electric Furnace from Alloy Steel Scrap,"  
Stal', No.6, pp. 19-20, 1946

Evaluation B-60428

VOINOV, S. G.

4

Utilization of alloy steel plate scrap in electric (smelting) furnaces. S. G. Voinov and M. V. Selivanov. *Stal* 6, 365-8(1946); cf. C.A. 41, 19704. Cr-Ni-Mo steel was produced in an elec. furnace from charges contg. 70% of alloy steel plate scrap. M. Hosh

B-61757  
Evaluation B-60428

ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION



VISHNYAKOV, A.V., kand.tekhn.nauk, dotsent; VOINOV, S.G., kand.tekhn.nauk;  
DANILOV, P.M., inzh.

Changes in impurity inclusion in metals between furnace and  
mold. Izv.vys.ucheb.zav.; chern.met. no.6:47-53 Je '58.  
(MIRA 12:8)

1. Sibirskiy metallurgicheskiy institut, TSentral'nyy nauchno-  
issledovatel'skiy institut chernoy metallurgii i Kuznetskiy  
metallurgicheskiy kombinat. Rekomendovano kafedroy elektro-  
metallurgii stali i ferrosplavov Sibirskogo metallurgicheskogo  
instituta.

(Steel--Defects)

VOINOV, S.G.

НЕМЕТАЛЛИЧЕСКИЕ ВКЛЮЧЕНИЯ СТАЛИ

С.М.Павлов	Осадки окисной стали от турбомашин
Г.Ф.Косович	Осадки окисной
С.Е.Васильев	Введение методов исследования стали в
А.М.Самарин	область окисной стали по процессу де-
	сугурации.
Д.К.Вуляев	Введение водорода в окисленную сталь
А.М.Мельников	и в структуру литейной стали.
С.Т.Ростовцев	Осадки неметаллических включений
Д.И.Турович	в окисленной стали.
В.И.Васильев	и окисленной стали.
Н.С.Протасов	
В.А.Уралов	Введение в окисленную сталь
Ю.Т.Лукин	окисной стали.
Ю.Т.Лукин	Введение в окисленную сталь
Д.И.Турович	и окисленной стали.
О.В.Пичугин	
В.В.Курочкин	
А.И.Косов	Осадки окисной стали в процессе
	окисления стали.
С.Т.Васильев	Разработка и внедрение методов
П.М.Доминин	исследования окисленной стали.
В.П.Косов	Введение в окисленную сталь
П.А.Алексеев	и окисленной стали.

report submitted for the 5th Physical Chemical  
Conference on Steel Production, Moscow-- 30 Jun 1959.

VOINOV, S. G.

"Improvement of the Technology of Steel Melting in Electric Arc Furnaces." Sub  
9 Oct 51, Inst of Metallurgy imeni A. A. Baykov, Acad Sci USSR

. Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

Voinov, S.G.

VOINOV, S.G., kandidat tekhnicheskikh nauk; BOYARSHINOV, V.A., inzhener.

Non-metallic inclusions in ball-bearing steel. Stal' 15 no.1:46-53  
Ja '55. (MIRA 8:5)

1. TsNIICHM.  
(Steel—Metallography)

VOINOV, S.G.

VOINOV, S.G. kandidat tekhnicheskikh nauk

Problem of technological improvements in the electric steel melting processes. Stal' 15 no.4: 329-333 Ap '55. (MLRA 8:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metal-lurgii.

(Steel--Electrometallurgy)

ACCESSION NR: AP4041866

S/0133/64/000/007/0599/0604

AUTHOR: Voinov, S. G., Kosoy, L. F., Morozenskiy, A. I., Savel'yev, D. F.,  
Shalimov, A. G., Kalinnikov, Ye. S., Shatunov, S. F., Kireyev, B. A., Okhapkin, S. I.  
Davydova, L. N., Izmanova, T. A.

TITLE: Refining of 100-ton open-hearth melts by liquid synthetic slag in the ladle

SOURCE: Stal', no. 7, 1964, 599-604

TOPIC TAGS: steel manufacture, ore refining, alloy steel, carbon steel, open hearth  
melt refining, ladle refining, synthetic slag, liquid synthetic slag

ABSTRACT: The authors describe a technique for the ladle treatment of 100-ton open-hearth melts by means of synthetic liquid slag under industrial conditions which make it possible to produce high-quality alloy and carbon steel, including ball-bearing steel, equal to electric steel in terms of the content of non-metallic admixtures, mechanical properties (along and across the fiber) and other criteria. Experiments were conducted by TsNIChM with 60 melts from two 100-ton basic open-hearth furnaces operating with a hard charge by the scrap method and heated by mazut with steam sprinkling at a temperature of 200-300C and a pressure of 10-12 atmospheres. The synthetic slag was smelted in a redesigned 18-ton arc-type electric furnace (DST-12) with a special carbon vat lining.

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ACCESSION NR: AP4041866

The slag was obtained by melting together industrial alumina and lumpy annealed lime. The electric power consumption required to smelt one ton of the synthetic slag was 1,495 kilowatt-hours, corresponding to an additional expenditure of electric power of 56.8 kilowatt-hour/ton of steel. Before releasing the melt into the ladle, the liquid synthetic slag was poured off in the amount of 3-4% of the weight of the metal (the mean consumption of slag per ton of steel was 3.7%), after which, with as little delay as possible, the melt was released into the same ladle. Meanwhile, the oxidized furnace slag was removed from the metal in the spout of the open-hearth furnace by means of a special device described and illustrated schematically in the text. The mean temperature of the liquid synthetic slag in the furnace before slagging was 1,670-1,640°C. Before the refinement of the steel the slag contained 40-41%  $\text{Al}_2\text{O}_3$ , 54-56%  $\text{CaO}$ , 1.5-2.0%  $\text{SiO}_2$ , 1-3%  $\text{MgO}$  and 0.2-0.4%  $\text{FeO}$ . In the industrial tests that were carried out, steels 30KhGSA, 40KhNMA, 40KhFA, 50KhFA, U7-8A and ShKh15 were smelted in 100-ton furnaces and teemed. The metal was held in the ladle 8-15 minutes before pouring. In order to provide a proper comparison of the test metal with conventional metal, 32 melts were made according to the conventional technology in 100-ton, 40-ton open-hearth and 18-ton arc furnaces. The tests indicated that the refining of large open-hearth melts in the ladle by liquid synthetic slag involves no difficulties. The normal smelting procedure according to the new

Card

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ACCESSION NR: AP4041866

technology provided a metal of the prescribed chemical composition. A high degree of desulfuration was achieved. The sulfur content in the metal so refined was reduced from 0.030-0.040 to 0.006-0.012%. Open-hearth ball-bearing steel ShKh15 refined by synthetic slag had a higher degree of purity with respect to non-metallic admixtures than the electric steel of Plant No. 1 and of other metallurgical plants. The quality of the open-hearth structural alloy and instrument-carbon steels, refined by the synthetic slag, was equal to that of electric steel, and was even superior to it in terms of plasticity and resiliency across the fiber. Experiments in the preparation of the synthetic slag in an arc-type electric furnace for the processing 10-ton open-hearth melts indicated that in order to obtain 1 ton of the liquid slag 1500 kw-hours of electric power is sufficient with a specific transformer power of 200 kva per ton of hourly productivity of a slag-smelting furnace. The production of high quality open-hearth steel in 100-ton furnaces by the new method results in a considerable cost reduction in comparison with conventional electric steel. The results of the refining of 100-ton open-hearth melts by means of liquid synthetic slag point to the advisability of putting this method into operation in the open-hearth shops of high-quality metallurgical plants having furnaces of 100- to 200-ton capacity. "A. M. Svistunov (Deceased), S. Motveychuk, Ye. N. Vasil'yev, A. S. Mikhaylov, I. F. Yefimov, A. A. Kuz'min, K. S. Obokmov, Yu. N. Gorbunov, V. G. Kuklev, N. I. Kazakova and others also took part in the work." Orig. art. has: 4 figures and 4 tables.

Card 3/4



ACCESSION NR: AP441366

ASSOCIATION: None

SUBMITTED: 00

ENCL:00

SUB CODE: MM

NO REF SOV: 003

OTHER: 000

Card

4/4

GABUYEV, G.Kh.; YEL'TSOV, K.S.; SHUL'TE, Yu.A.; MIKHAYLOV, P.A.; GAREVSKIKH, I.A.;  
LEYBENZON, S.A.; TSIVIRKO, E.I.; MEDOVAR, B.I.; LATASH, Yu.V.; FRANTSOV,  
V.P.; PAKHOMOV, A.I.; KAGANOVSKIY, G.P.; VOINOV, S.G.; SHALIMOV, A.G.;  
KALINNIKOV, Ye.S.; SMOLYAKOV, V.P.; KOSOY, L.F.

Improving the quality of electric-slag-refined bearing steel. Stal'  
(MIRA 18:1)  
24 no.7:640-642 J1 '64.

1. Zavod "Dneprospetstal'", Zaporozhskiy mashinostroitel'nyy institut,  
Institut elektrosvarki im. Ye.O.Patona i TSentral'nyy nauchno-issledo-  
vatel'skiy inistitut chernoy metallurgii imeni I.P.Bardina.

LUBENETS, I.A.; ZHUKOV, D.G.; VOINOV, S.G.; SHALIMOV, A.G.; KOSOY, L.F.;  
KALINNIKOV, Ye.S.; CHERNYAKOV, V.A.; YAFITSEV, M.A.; GOLIKOV, Ye.S.;  
MYSINA, G.Ye.; Primali uchastiye: KEYS, N.V.; PEGOV, V.G.;  
MEN'SHENIN, Ye.B.; BARNOVALOV, M.A.; SHIRER, G.B.; SHATALOV, M.I.;  
MOLCHANOVA, A.A.; ANISIMOVA, M.Ye.

Refining steel with synthetic slag from large-capacity arc  
furnaces. Stal' 25 no.3:232-235 Mr '65. (MIRA 18:4)

SHALIMOV, A.G., kand. tekhn. nauk; VOINOV, S.G., doktor tekhn. nauk;  
KOSOV, L.F.

Improving the quality of alloy steel by refining it with a  
liquid synthetic slag. Met. i gornorud. prom. no.4:16-19  
J1-Ag '64. (MIRA 18:7)

VOINOV, S.G.; KOSOV, L.F.; MOROZENSKIY, A.I.; SAVEL'YEV, D.F.; SHALIMOV, A.G.;  
KALINNIKOV, Ye.S.; SHATUNOV, S.F.; KIREYEV, B.A.; OKHAPKIN, S.I.;  
DAVYDOVA, L.N.; IZMANOVA, T.A.

Refining a 100-ton open-hearth heat with a liquid synthetic slag  
in the ladle. Stal' 24 no.7:599-604 J1 '64.

(MIRA 18:1)

127

VOINOV  
ACCESSION NR: AF4041869

S/0133/64/000/007/0640/0642

AUTHORS: Gabuyev, G. Kh.; Yel'tsov, K. S.; Shul'ta, Yu. A.; Mikhaylov, P. A.; Garevskikh, I. A.; Leybenzon, S. A.; Tsivirko, E. I.; Hadovar, B. I.; Latash, Yu. V.; Frantsov, V. P.; Pakhomov, A. I.; Kaganovskiy, G. P.; Voinov, S. G.; Shalimov, A. G.; Kalinnikov, Ye. S.; Smolyakov, V. P.; Kosoy, L. P.

TITLE: Improvement of the quality of electroslag-melted ball-bearing steel

SOURCE: Stal', no. 7, 1964, 640-642

TOPIC TAGS: ball bearing steel, electroslag melted steel, high purity steel, steel electroslag melting

ABSTRACT: Several variants of electroslag melting have been tested in an attempt to improve the quality of ball-bearing steel. The analysis of electroslag-melted steel showed that nitrides and carbonitrides constitute the greatest part (up to 75%) of the nonmetallic inclusions present in the steel. These nitrides derive from the initial material. The electroslag process eliminates large nitrides over 20μ in diameter, but does not eliminate the smaller ones.

Cord 1/3

ACCESSION NR: AP4041869

Therefore, the nitrogen and titanium contents of the initial metal must be reduced to a minimum. This can be done, for example, by refining the metal in the ladle with synthetic slag. Electroslag melting of open-hearth steel refined with synthetic slag eliminated all the inclusions larger than 10 $\mu$  and reduced the number of smaller inclusions by more than 50% and the nitrogen and oxygen contents to 0.0053 and 0.0020%, respectively. To produce ultra-high purity ball-bearing steel, the double electroslag melting was applied with a combination of various fluxes. The use of ANF-6-ANF-6 fluxes in double electroslag melting or of AN-29-ANF-6 fluxes produced best results. Ultra-high purity steel, fully satisfying requirements for critical ball bearings, was obtained. Orig. art. has: 2 figures.

ASSOCIATION: Dneprospetstal' (Dneprospetstal' plant); Zaporozhskiy mashinostroitel'nyy institut (Zaporozh Machine-Building Institute); Institut elektrosvarki in Ye. O. Patona (Electric Welding Institute); TsMICHM

Card 2/3

ZHUKOV, D.G.; KEYS, N.V.; MEN'SHENIN, Ye.B.; PEGOV, V.G.; MOLCHANOVA, A.A.;  
VOINOV, S.G., doktor tekhn. nauk, rukovoditel' raboty.

Treatment of electric steel with a liquid synthetic slag.  
Met. i gornorud. prom. no.1:61-65 Ja-F '65. (MIRA 18:3)



L 12972-65 EWT(n)/EMA(d)/EWP(t)/EWP(z)/EWP(b) JD  
 S/0133/65/000/003/0232/0235  
 ACCESSION NR: AP5008709

AUTHOR: Lubenets, I. A.; Zhukov, D. G.; Voinov, S. G.; Shalimov, A. G.; Kosoy, L. F.; Kalinnikov, Ye. S.; Chernyakov, V. K.; ~~Tartsev~~, M. A.; Golikov, Ye. S.; Mysina, G. Ye

TITLE: Synthetic slag refining of steel from large-capacity arc ovens

SOURCE: Stal', no. 3, 1965, 232-235

TOPIC TAGS: steel refining, synthetic slag, ball bearing steel, chromium steel, low impurity steel, arc oven steel

ABSTRACT: During the second half of 1963, one of the electrical steel-smelting enterprises started introducing the refining of steel by means of synthetic lime-alumina slag into industrial use. The present article reports on the preliminary findings concerning the efficiency of this new process. Tests were carried out with a slag-melting OKB-284 oven having an interior diameter of 5350 mm and a 4500 kVA transformer. The wall and cover were made of chromomagnesite while the tank was lined with carbon blocks; the smelting chamber had a diameter of 3000 mm and was 800 mm deep. All pertinent construction and operational data are given

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L 42972-65

ACCESSION NR: AP5008709

in considerable detail. Specifically, 1) the oven produced 2.5 metric tons/hr. of slag; 2) during production of ball-bearing and construction chromium steel, the slag consumption amounted to 2.8-5.0% of the mass of processed metal; 3) the oven consumed about 1420 kWh per metric ton of slag produced; 4) the shortened refining operation decreased the consumption of electrical energy by 30-40 kWh per metric ton of metal, which compensated fully for the energy requirements for the production of slag; and 5) the productivity of the large-capacity electrical ovens was increased by 10-15%. The new method markedly reduced (as shown in several tables presenting the results of impurity determinations) the amount of nonmetallic impurities and improved the plastic properties of the finished product. The technological procedures described should be able, in the future, to improve the quality of the above-mentioned special steels even more and reduce the impurity content even further. "In this work, carried out in conjunction with TsNIICHM, N. V. Keys, V. G. Pegov, Ye. B. Men'shenin, M. A. Barnovalov, G. E. Shirer, M. I. Shatalov, A. A. Molchanova, M. Ye. Anisimova, and others also took part." Orig. art. has: 5 tables.

ASSOCIATION: None

ENCL: 00

SUB CODE: MM

SUBMITTED: 00

OTHER: 000

NO REF SOV: 001

Card 2/2

VOINOV, Semen Georgiyevich; SHALIMOV, Anatoliy Georgiyevich;  
KOSOV, Leonid Georgiyevich; KALINNIKOV, Yevgeniy  
Sergeyevich

[Refining metals with synthetic slags] Rafinirovanie me-  
tallov sinteticheskimi shlakami. Moskva, Metallurgiya,  
1964. 279 p. (MIRA 17:12)

VOINOV, S.G.

Mechanism of the formation and distribution of oxide inclusions in ball-bearing steel. Stal' 23 no.6:523-528 Je '63. (MIRA 16:10)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

VOINOV, S.G.; KALENHIKOV, Ye.S.; TOPIL'SKIY, P.V.; BOBKOVA, O.S.;  
MIRNAYA, V.G.; LAMIC, V.P.; KOSOV, L.F.; SHALIMOV, A.G.;  
Prinimali uchastiye: IOFFE, V.N.; CHABCHIBIDZE, N.I.;  
KARCHEVICH, N.I.; KONOVA, N.I.

Developing a procedure for the making of limestone and alumina  
semifinished products for the preparation of synthetic slag.  
Stal' 22 no.2:128-132 F '62. (MIRA 15:2)

(Slag)  
(Electric furnaces)

PHASE I BOOK EXPLOITATION

SOV/6039

Voinov, ~~Semen Georgiyevich~~, and Anatoliy Georgiyevich Shalimov

Sharikopodshipnikovaya stal' (Ball-Bearing Steel) Moscow, Metallurgizdat, 1962.  
480 p. Errata slip inserted. 5200 copies printed.

Ed. of Publishing House: N. D. Gromov; Tech. Ed.: V. Mikhaylova.

PURPOSE: This book is intended for engineering personnel of metallurgical and machine-building plants and members of scientific research and educational institutes. It may also be useful to advanced students.

COVERAGE: The book presents results of extensive research conducted with the aim of improving the technology of melting ball-bearing steel in basic electric-arc furnaces. Soviet and non-Soviet material on this subject is reviewed. Methods of melting ball-bearing steel in other melting facilities are discussed in detail. Requirements for steel and methods applied in metallurgical plants for controlling the quality of steel are explained. Considerable attention is given to the description of nonmetallic inclusions and to the effect of

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# Ball-Bearing Steel

various factors on their content. The authors thank engineers G. I. Yermolayev, A. I. Borodulin, P. S. Plekhanov, V. Ya. Monastyrskiy, A. N. Glazov, L. I. Teder, P. M. Danilov, A. K. Petrov, O. M. Chekhomov, D. G. Zhukov, L. F. Kosoy, Ya. M. Bokshitskiy, T. E. Pravdina, S. A. Kiseleva, S. M. Yerenenko, and M. M. Shapiro for their assistance. There are 292 references, both Soviet and non-Soviet.

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1. Requirements for ball-bearing steel under operating conditions
2. Chemical composition and properties of ball-bearing steel
3. Requirements for metal in the "as-supplied" state

### Ch. II. Methods of Controlling the Quality of Ball-Bearing Steel

1. Inspection of the surface, dimensions, and shape of a cross section of rolled stock

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VOINOV, S.G.; KOSOY, L.F.; SHUMOV, M.M.; SHALIMOV, A.G.; CHEKHOMOV, O.M.;  
ANDREYEV, T.B.; AFANAS'YEV, S.G.; KALINNIKOV, Ye.S.; Primali  
uchastiye: KORNEYENKOV, A.N.; GURSKIY, G.V.; BOKSHITSKIY, Ya.M.;  
PETROV, A.K.; MOKHIR, Ye.D.; KOLYASNIKOVA, R.I.; KHASIN, G.A.;  
DANILIN, V.P.; PLEKHANOV, P.S.; MAZUN, A.I.; MARKIN, A.A.

Refining converter steel in the ladle with liquid synthetic slag.  
Stal' 22 no.3:226-232 Mr '62. (MIRA 15:3)  
(Steel—Metallurgy)



VOINOV, S.G., kand.tekhn.nauk; KORNEYENKOV, A.N., inzh.; PETROV, A.K.;  
BOKSHITSKIY, Ya.M.; MARKELOV, A.I.; SHALIMOV, A.G., kand.tekhn.  
nauk; KOSOY, L.F., inzh.; CHEKHOMOV, O.M.; KHASIN, G.A.

Refining of alloyed steels by molten synthetic slags. Stal' 20  
no. 7:611-618 J1 '60. (MIRA 14:5)  
(Steel--Electrometallurgy)

VOINOV, Semen Georgiyevich; SHALIMOV, Anatoliy Georgiyevich; GROMOV,  
N.D., red. izd-va; MIKHAYLOVA, V., tekhn. red.

[Steel for ball bearings] Sharikopodshipnikovaia stal'. Mo-  
skva, Metallurgizdat, 1962. 480 p. (MIRA 15:4)  
(Ball bearings) (Steel)

S/113/62/000/003/001/008  
A054/A127

AUTHORS: Voinov, S. G., Kosoy, L. F., Shumov, M. M., Shalimov, A. G.,  
Chekhomov, O. M., Andreyev, T. B., Afanas'yev, S. G., Kalinnikov,  
Ye. S.

TITLE: Refining converter steel with liquid synthetic slag in the ladle

PERIODICAL: Stal', no. 3, 1962, 226 - 232

TEXT: The good results obtained in refining electric steels with liquid  
lime-aluminous slag led to pilot-plant tests with converter steels, using the  
same method. 111 heats were smelted in a basic 8-ton converter; 46 of them were  
refined in the ladle with liquid synthetic slags of the following composition  
(in %):

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S/133/62/000/003/001/008  
A054/A127

Refining converter steel with...

Steel grade	Number of heats	CaO	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	MgO	FeO	Cr <sub>2</sub> O <sub>3</sub>
ШХ15 (ShKh15)	6	<u>55.25</u> 53.04	<u>42.73</u> 41.47	<u>1.90</u> 3.85	<u>0.79</u> 0.80	<u>0.82</u> 0.90	<u>0.30</u> 0.17
12XH3A, 06H3 (12KhN3A), (06N3)	5	<u>52.49</u> 49.82	<u>42.45</u> 35.94	<u>2.02</u> 5.06	<u>0.78</u> 0.82	<u>0.90</u> 7.69	<u>0.94</u> 0.92
СГБ (SGV) (deep drawing steel)	7	<u>53.10</u> 51.37	<u>44.22</u> 38.34	<u>2.19</u> 4.52	<u>0.75</u> 0.93	<u>0.65</u> 4.05	<u>0.23</u> 0.23
И (I) (tool, carbon, cable, rail, axle steel)	14	<u>53.58</u> 52.51	<u>44.08</u> 40.92	<u>2.06</u> 3.61	<u>0.69</u> 0.72	<u>0.70</u> 1.75	<u>0.15</u> 0.13

(numerator: composition prior to metal treatment; denominator: composition after the treatment). The slag was melted in a 3-ton arc furnace, with hearth and banks of carbon blocks and carbon packing. The slags differed from those used for electric steels in that they contained more silica, ferrous oxides and

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